

### **REMARKS**

Claims 1-32 are pending. Claims 13-22 have been withdrawn from consideration. In this Amendment, no claims are added or cancelled. Claims 23, 26, 28, and 31-32 are currently amended for purposes of clarification and without adding new matter. Support for the amendments may be found, for example, in Applicant's specification at page 3, line 30 through page 4, line 15; page 5, line 27 through page 6, line 8; page 7, line 15 through page 8, line 21; and in the Example. Applicant believes that the amendments to the claims place the application in condition for allowance. Applicant respectfully requests reconsideration of the application and amended claims, and prompt allowance of all pending claims in view of the following arguments.

#### **Rejections under 35 U.S.C. § 112**

Claim 32 stands rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has presently amended claim 32 to depend from claim 31, as properly presumed by the Examiner in the last Office Action. Applicant respectfully submits that the rejection of claim 32 under 35 U.S.C. § 112, second paragraph, has been overcome, and that the rejection should be withdrawn.

#### **Rejections under 35 U.S.C. § 103**

Claims 23 and 25-32 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious and including any third party patent office on a worldwide basis, unpatentable over Manfredi et al. (US 5,785,585) in view of Mitsui et al. (US 6,312,324). Claim 23 has been currently amended to clarify that the abrasive particles are affixed to said substrate by chemical bonding with a brazing alloy including at least one of aluminum, boron, carbon, cobalt, iron, manganese, silicon, and zinc. Claim 26 has been currently amended to further limit the brazing alloy to include at least one of cobalt, iron, manganese, silicon or zinc. Applicant respectfully submits that Manfredi et al. in view of Mitsui et al. has not been shown to disclose, teach or suggest abrasive particles affixed to a substrate **by chemical bonding** with a brazing alloy including at least one of aluminum, boron, carbon, cobalt, iron, manganese, silicon, and zinc. For at least this reason, reconsideration and withdrawal of the rejection of claims 23 and 25-32 under 35 U.S.C.

§ 103(a) as allegedly being obvious and unpatentable over Manfredi et al. in view of Mitsui et al. is respectfully requested.

Claims 1-13 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious and unpatentable over Manfredi et al. (US 5,785,585) in view of Sung (US 6,679,243). The Patent Office alleges:<sup>1</sup>

6. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manfredi et al, 5,785,585 in view of Sung, 6,679,243. '585 does not disclose or teach the matrix material comprising a brazing alloy, which further comprises at least one of chromium, tungsten, cobalt, titanium, zinc, iron, manganese or silicon, or that the brazing alloy is aluminum, boron, carbon or silicon, with the abrasive is cubic boron nitride or aluminum oxide; or the disk comprising a corrosion resistant powder from 40% to 98% by weight of the matrix material.. '243, column 13, lines 36-39, teaches using a brazing alloy with diamond abrasive, the alloy containing chromium, manganese, or silicon as a carbide precursor, column 20, lines 31-48, the silicon carbide being corrosion resistant, and 50% by weight of the alloy. '243 further teaches that dependent on tool use, other abrasives, such as cubic boron nitride can be used. Because both references teach abrasive bonded to supports by a matrix, it would have been obvious to one of ordinary skill in the art to have substituted the materials taught by '243 for those of '585, for the predictable result of strongly bonding the abrasive to the support. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Regarding the use of aluminum oxide as an

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<sup>1</sup> Office Action dated December 31, 2008, page 4, ¶ 6.

Applicant respectfully disagrees with the rejection of the claims, as the Patent Office has not met the burden of establishing a proper *prima facie* case of obviousness in view of the cited reference.<sup>2</sup> A proper *prima facie* case of obviousness requires that the Patent Office establish three facts:<sup>3</sup>

1. identification of a motivation to combine/modify the cited references;
2. a showing that the proposed combination provides a reasonable expectation of success; and
3. a teaching or suggestion of all of the claim limitations.

With respect to the rejections of independent claim 1, from which claims 2-12 depend, and withdrawn independent claim 13, from which claims 14-22 depend, Applicant respectfully contends that the Patent Office has failed to properly provide a reference that discloses, teaches or suggests all claim limitations of Applicant's claimed invention.<sup>4</sup> Applicant respectfully contends that the Patent Office fails to establish a proper case of *prima facie* obviousness, at least by failing to establish that Manfredi et al. in view of Sung actually disclose, teach or suggest Applicant's presently claimed matrix material comprises a brazing alloy **and** a corrosion resistant powder.

In responding to the Office Action dated July 16, 2008, Applicant amended independent claim 1 and withdrawn independent claim 13 to include a limitation that the matrix material comprises a brazing alloy **and** a corrosion resistant powder selected from at least one of stainless steel, nickel, nichrome, titanium, zirconium, tungsten carbide, silicon carbide, wherein said corrosion resistant powder comprises from 40% to 98% by weight of said matrix material. Applicant does not understand the cited combination of references to disclose, teach or suggest the foregoing limitation.

Applicant respectfully submits that the Patent Office mischaracterizes Sung as disclosing Applicant's claimed combination of a brazing alloy with a corrosion resistant powder. Sung actually discloses at column 13, lines 36-39:<sup>5</sup>

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<sup>2</sup> See MPEP § 2142

<sup>3</sup> M.P.E.P. § 2143.

<sup>4</sup> See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986).

<sup>5</sup> U.S. Pat. No. 6,679,243, col. 4, lines 36-39 (*emphasis added*).

Preferably, **the diamond braze contains** at least 3% by weight of a member selected from the group consisting of chromium, manganese, **silicon**, titanium, and aluminum, and alloys and mixtures thereof.

Thus, Applicant respectfully submits that the passage cited by the Patent Office and relied upon as allegedly disclosing silicon as a carbide precursor of silicon carbide **powder**, actually teaches or discloses only a **brazing alloy comprising silicon, not a separate corrosion resistant powder comprising silicon carbide** in addition to the brazing alloy.

Furthermore, Applicant respectfully contends that there is absolutely no evidence in the record to suggest that Manfredi et al. with Sung actually discloses, teaches or suggests Applicant's claimed matrix material comprising a brazing alloy and a corrosion resistant powder selected from at least one of stainless steel, nickel, nichrome, titanium, zirconium, tungsten carbide, silicon carbide, wherein said corrosion resistant powder comprises from 40% to 98% by weight of said matrix material. Nor has any evidence been presented in the record to establish a proper motivation for one of ordinary skill in the art to provide such a combination, or have a reasonable expectation of success in obtaining Applicant's presently claimed invention should such a combination be made, absent Applicant's own disclosure. For at least these reasons, the rejection of claims 1-13 under 35 U.S.C. § 103(a) as allegedly being obvious and unpatentable over Manfredi et al. in view of Sung has been overcome and should be withdrawn.

### CONCLUSION

In view of the above, it is submitted that the application is in condition for allowance. Allowance of all pending claims at an early date is solicited. The Examiner is invited to contact Applicant's attorney to resolve any remaining questions.

Respectfully submitted,

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Date

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